

REMARKS

I. Status of the Application

In view of the above amendments and the following remarks, reconsideration of the rejections and objections set forth in the Office Action of November 1, 2010 is respectfully requested.

By this amendment, claim 4 has been amended and claims 15-18 have been added. Claims 4-18 are now pending in the application. No new matter has been added by these amendments.

II. Claim Objections

Claim 4 is objected to regarding a minor typographical error, and the aforementioned amendment to claim 4 is effective to correct this error. Withdrawal of this objection is thus respectfully requested.

III. Prior Art Rejections

Currently, claims 4-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tanaka (JP 2000-266144) in view of Sirven (US 4,749,068) in view of Homme (US 5,178,239) and further in view of Mizumukai (US 4,561,524) and claims 11-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tanaka in view of Sirven in view of Homme in view of Mizumukai and further in view of Orloff (US 2,564,790).

Claim 4 is patentable over Tanaka, Sirven, and the remainder of the applied prior art for the following reasons. Claim 4 recites an auto-tensioner comprising, in part, a cylinder and a sleeve; a plunger defining a pressure chamber below said plunger in said sleeve, said plunger

defining a reservoir chamber above said plunger in said cylinder, and said plunger having a passage through which said pressure chamber communicates with said reservoir chamber; a check valve provided at said passage to close said passage when a pressure in said pressure chamber exceeds a pressure in said reservoir chamber; wherein a return chamber is defined by said closed bottom of said cylinder and under said sleeve so as to communicate with said reservoir chamber, said bottom of said sleeve being formed with a valve hole through which said return chamber communicates with said pressure chamber; and wherein a relief valve is provided at said valve hole to open said valve hole if the pressure in said pressure chamber exceeds a set pressure.

On pages 3 and 4 of the Office Action, the Examiner acknowledges that the device of the Tanaka reference does not include a relief valve or a return chamber; however it is asserted that the control valve (41) of Sirven constitutes a relief valve and the radial passages (49) constitute a return chamber, and that one skilled in the art would have modified the Tanaka reference in view of Sirven to yield the claimed invention. Applicant traverses this rejection for the following reasons.

The device of Sirven is a shock absorber, and the valve (41) serves to regulate the speed at which the rod (3) moves during the normal operation of the shock absorber (see column 7, lines 3-19 of Sirven). The Examiner asserts that one skilled in the art would have provided the valve (41) of Sirven in the device of Tanaka “to allow the auto-tensioner to be compressed quickly under a large force to prevent damage to itself or to the belt drive system.” However, such a protective operation is not performed by the valve (41) of Sirven; instead, the valve allows for fluid communication during normal operation of the shock absorber, as described in column 7, lines 3-19. One skilled in the art would have had no reason to provide the valve (41)

of Sirven into the device of Tanaka to perform a function which is not disclosed in Sirven or elsewhere in the prior art. It is noted that if the valve (41) of Sirven were modified to open only when the pressure applied thereto rises to such an extent as to damage the components thereof, the rod (3) of the Sirven reference would not be movable as described in column 7, lines 3-19 thereof, and thus the modification proposed in the Office Action would render the valve unsuitable for its intended purpose (see MPEP 2143.01). Because one skilled in the art would have had no reason to modify the valve (41) of Sirven to perform a function which is not disclosed or suggested in the prior art, and would not modify the valve (41) in a way rendering it unsuitable for its intended purpose, the configuration of claim 4 is not obvious over Tanaka in view of Sirven.

Moreover, if the valve (41) of Sirven operated in accordance with its intended function when added to the device of Tanaka, it would be entirely redundant with the gap (14) of Tanaka by serving to allow oil flow during the normal compression of the rod. Accordingly, one skilled in the art would not see any advantage to adding the valve (41) to the device of Tanaka because the device of Tanaka already includes structure which performs the function of the valve (41) of Sirven. Because one skilled in the art would have had no reason to modify the Tanaka reference as proposed in the Office Action, the configuration of claim 4 is not obvious in view of the applied prior art.

Lastly, it is noted that the alleged reservoir chamber (2b) of Sirven is provided below the chamber (2a) and without an air gap, and thus one skilled in the art would not recognize the chamber (2b) as corresponding to the reservoir chambers (11, 17) of Tanaka as proposed in the Office Action. Moreover, the passages (49) and valve (41) of Sirven are in fluid communication with a third chamber (8a, 11) having yet another nonreturn valve (see column 5, lines 3-14).

Accordingly, one skilled in the art would not conceive of putting the passages (49) and valve (41) of Sirven below the sleeve (7) of Tanaka and thus in fluid isolation, to yield the configuration recited in claim 4. Such a modification would yield a device dissimilar to both Sirven and Tanaka, and this modification would not have been obvious at the time the present invention was made.

Further, it appears as though there would have been no reason to modify any of the prior art of record to yield a configuration which would meet the requirements of claim 4. It is thus submitted that the invention of the present application, as defined in claim 4, is not anticipated nor rendered obvious by the prior art, and yields significant advantages over the prior art. Allowance is respectfully requested.

Claims 5-18 depend, directly or indirectly, from claim 4 and are thus allowable for at least the reasons set forth above in support of claim 4.

In view of the foregoing amendments and remarks, inasmuch as all of the outstanding issues have been addressed, it is respectfully submitted that the present application is now in condition for allowance, and action to such effect is earnestly solicited. If any issues remain after consideration of the response, the Examiner is invited to telephone the undersigned at the Examiner's convenience.

Respectfully submitted,

Katsunori MINENO et al.

By /Andrew D. St.Clair/

Andrew D. St.Clair
Registration No. 58,739
Attorney for Applicant

Digitally signed by /Andrew D. St.Clair/
DN: cn=/Andrew D. St.Clair/, o, ou,
email=wastclair@wenderoth.com, c=US
Date: 2011.02.28 13:55:57 -05'00'

ADS/jjy
Washington, D.C. 20005-1503
Telephone (202) 721-8200
Facsimile (202) 721-8250
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